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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,620	02/25/2000	Harlan Sexton	50277-403	7349

7590 07/02/2004

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EXAMINER	
VO, LILIAN	
ART UNIT	**PAPER NUMBER**
2127	

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/512,620	SEXTON ET AL.	
	Examiner	Art Unit	
	Lilian Vo	2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 16 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 – 5, 7 – 13 and 15 - 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heiney et al. (US 6,401,109 B1, hereinafter Heiney) in view of Li (US 6,519,594 B1).

4. Regarding **claims 1 – 3 and 9 - 11**, Heiney discloses a method for serving requests received by a server in a multiple-user environment, the method comprising the steps of:

establishing a first session between said server and a first user (col. 8, lines 4 – 36 and figs. 7 and 11);

establishing a second session between said server and a second user (col. 8, lines 4 – 36 and figs. 7 and 11);

responding to requests that are received by said server in said first session by executing virtual machine code using a first virtual machine instance (col. 8, lines 4 – 36, figs 7 and 11); and

responding to requests that are received by said server in said second session by executing virtual machine code using a second virtual machine instance (col. 8, lines 4 – 36, figs 7 and 11);

wherein said first virtual machine instance and said second virtual machine instance are distinct instances of a same type of virtual machine (fig. 7, 11, col. 8, lines 4 – 36, col. 9, lines 5 - 38);

wherein said first virtual machine instance exists within said server concurrently with said second virtual machine instance (fig. 7 and 11, col. 8, lines 4 – 36, col. 9, lines 5 - 38).

Heiney however did not clearly mention that the virtual machine instances share access to data stored in a shared state area allocated in volatile memory associated with the server. Li discloses of different virtual machines having access to shared memory pool and the sharing of Java classes from the shared memory pool between virtual machine instances in col. 3, lines 20 – 35, col. 10, lines 26 – 50 and fig. 7. Therefore, it would have been obvious for one having an ordinary skill in the art at the time the invention was made, to include Li's teaching to Heiney's system to share common Java classes between virtual machines to reduce memory resource overhead required when operating multiple Java Virtual Machines (JVMs) and allow multiple JVM platform to be operable on an embedded computer system (abstract).

5. Regarding **claims 4 and 12**, Heiney did not clearly show the additional limitation as claimed. Nevertheless, Li discloses the step of plurality of virtual machine instances share read-only access to the data stored in the shared state area allocated in volatile memory within the server (col. 8, line 56 – col. 9, line 15 and col. 10, lines 26 - 50). Therefore, it would have been obvious for one having an ordinary skill in the art at the time the invention was made, to include Li's teaching to Heiney's system to share common Java classes between virtual machines to reduce memory resource overhead required when operating multiple Java Virtual Machines (JVMs) and to provide protection and prevent modification to shared data.

6. Regarding **claims 5 and 13**, Li discloses of shared state area stores data associated with an object class in fig. 7 and col. 8, line 56 – col. 9, line 15 and col. 10, lines 26 – 50. However, Heiney and Li did not clearly show the additional limitations as claimed. The Examiner takes an "Official Notice" that both the concept and advantages of providing for each virtual machine as disclosed in Heiney has to have each own session-specific memory that stores a value for a static variable associated with object class is well known and expected in the art. It would have been obvious to one having an ordinary skill in the art to store each virtual machine instance session-specific memory a value for a static variable associated with the object class to the combined teachings of Heiney and Li because that would retain the same data for each virtual machine after it is created until the call memory is terminated.

7. Regarding **claims 7 and 15**, Heiney discloses the step of responding to a call associated with a particular session with the server by scheduling, for execution in a system thread, the

particular virtual machine instance associated with the particular session (col. 2, lines 1 – 17, col. 8, lines 4 – 36 and figs. 7 and 11).

8. Regarding **claims 8 and 16**, Heiney discloses the step of spawning off a first copy of the Java virtual machine to create a second Java process object and the communication between the two Java process objects are using the same connection (e.g. col. 1, line 50 – col. 2, line 17). Heiney however, did not teach the steps of storing a pointer within said data structure to provide access to the data stored in the shared state area. Li teaches of JVMs sharing access of the Java classes from the shared memory pool (col. 3, lines 20 – 35 and fig. 7) and that each JVM machine has a pointer after it's been created (col. 14, lines 1 –15). Therefore, it would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to combine the teaching of Li to Heiney to share access to Java classes in the common memory pool to save memory resource for other usages.

9. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heiney et al. (US 6,401,109 B1, hereinafter Heiney) in view of Li (US 6,519,594 B1) and further in view of Miner et al (US 6,047,053, hereinafter Miner).

10. Regarding **claims 6 and 14**, the combined references of Heiney and Li did not clearly show the additional limitation as claimed. Nevertheless, Miner teaches of the virtual machine allocates and deallocates sessions for incoming calls (col. 22, lines 40-58), which inherently allocating and deallocating a memory slot for each call that is associated with the particular

session. Therefore, it would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate Miner's teaching to the combined teachings of Heiney and Li so that unused memory resource can be utilized more efficient.

Response to Arguments

11. Applicant's arguments filed on 4/28/04 have been fully considered but they are not persuasive for the reasons set forth below.

12. Regarding to applicants' remarks (page 8) that Heiney fails to disclose the features of "establishing a first session between said server and a first user and establishing a second session between said server and a second user", the examiner disagrees. Heiney clearly discloses these features, in which "**multiple clients 70 and 71 are connected to the server 11** across socket 12. Each of these clients is shown as a network printer manager client for establishing a session with a printer connected to the server 11..." (col. 8, lines 4 – 36 and figs 7 and 11). Furthermore, fig. 7 clearly shows that clients are connected to server and col. 5, lines 50 – 51 discloses that client system and server system are connected by a physical socket (see also fig. 1).

13. In response to applicants' remark of "Official Notice" in which the use of Official Notice is not for gap-filling but the sole evidentiary basis against the subject matter specific to claims 5 and 13 (page 9, 4th paragraph), the examiner has addressed this issue and pointed to the sections in Heiney's disclosure for the connected sessions between users and server as set forth above (see also col. 5, lines 50 – 51, col. 8, lines 4 – 36 and figs 7 and 11). The use of Official Notice

is solely evidentiary basis against the subject matter specific to claims 5 and 13 and therefore is proper.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 703-305-7864. The examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo
Examiner
Art Unit 2127

lv
June 25, 2004

MENG-AL T. AN
SUPERVISORY PATENT EXAMINER
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